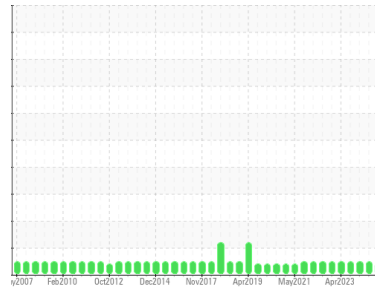




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Area

[22182476]

Machine Id

129-162-G Plug Screw Gearbox (S/N 422-902164-001-1)

Component

Gearbox

Fluid

ESSO SPARTAN EP 460 (4 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Viscosity of sample indicates oil is within ISO 320 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

| | method | limit/base | current | history1 | history2 |
|---------------|-------------|-------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | WC0900438 | WC0888578 | WC0813439 |
| Sample Date | Client Info | | 10 Apr 2024 | 24 Jan 2024 | 05 Oct 2023 |
| Machine Age | days | Client Info | 0 | 0 | 0 |
| Oil Age | days | Client Info | 0 | 0 | 0 |
| Oil Changed | Client Info | | N/A | N/A | N/A |
| Sample Status | | | ABNORMAL | NORMAL | NORMAL |

CONTAMINATION

| | method | limit/base | current | history1 | history2 |
|-------|-----------|------------|------------|----------|----------|
| Water | WC Method | >0.2 | NEG | NEG | NEG |

WEAR METALS

| | method | limit/base | current | history1 | history2 |
|-----------|-------------|--------------------|--------------|----------|----------|
| PQ | ASTM D8184* | | 0 | 47 | 0 |
| Iron | ppm | ASTM D5185(m) >200 | 10 | 104 | 9 |
| Chromium | ppm | ASTM D5185(m) >15 | 0 | 1 | 0 |
| Nickel | ppm | ASTM D5185(m) >15 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185(m) >25 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185(m) >100 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185(m) >200 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185(m) >25 | 0 | 0 | 0 |
| Antimony | ppm | ASTM D5185(m) >5 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | 0 | 0 | 0 |

ADDITIVES

| | method | limit/base | current | history1 | history2 |
|------------|--------|-------------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) .8 | 20 | 26 | 12 |
| Barium | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) .4 | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185(m) | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185(m) .7 | 0 | <1 | 0 |
| Calcium | ppm | ASTM D5185(m) 17 | 7 | <1 | 8 |
| Phosphorus | ppm | ASTM D5185(m) 250 | 282 | 314 | 291 |
| Zinc | ppm | ASTM D5185(m) 5.5 | 3 | 2 | 3 |
| Sulfur | ppm | ASTM D5185(m) | 14563 | 14512 | 14973 |
| Lithium | ppm | ASTM D5185(m) | <1 | <1 | <1 |

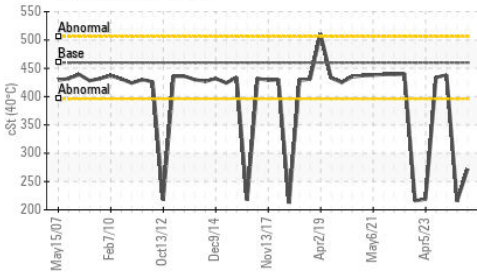
CONTAMINANTS

| | method | limit/base | current | history1 | history2 |
|-----------|--------|-------------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185(m) >50 | 1 | 0 | 2 |
| Sodium | ppm | ASTM D5185(m) | 0 | 0 | <1 |
| Potassium | ppm | ASTM D5185(m) >20 | <1 | <1 | 0 |

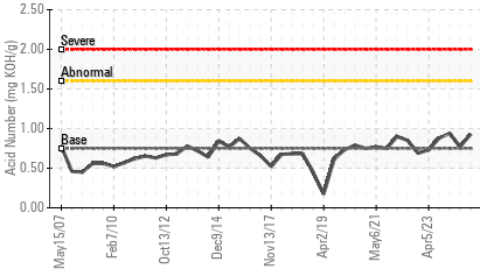
FLUID DEGRADATION

| | method | limit/base | current | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D974* 0.75 | 0.93 | 0.77 | 0.94 |

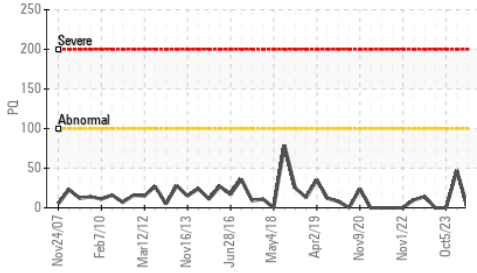
▲ Viscosity @ 40°C



Acid Number



PQ



| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | Visual* | NONE | NONE | NONE |
| Yellow Metal | scalar | Visual* | NONE | NONE | NONE |
| Precipitate | scalar | Visual* | NONE | NONE | NONE |
| Silt | scalar | Visual* | NONE | NONE | NONE |
| Debris | scalar | Visual* | NONE | NONE | NONE |
| Sand/Dirt | scalar | Visual* | NONE | NONE | NONE |
| Appearance | scalar | Visual* | NORML | HAZY | NORML |
| Odor | scalar | Visual* | NORML | NORML | NORML |
| Emulsified Water | scalar | Visual* | >0.2 | NEG | NEG |
| Free Water | scalar | Visual* | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|---------------|-----------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 460 ▲ 272 | 215 | 438 |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
|---------------|--------|------------|---------|----------|----------|

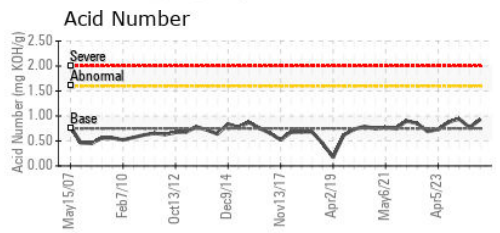
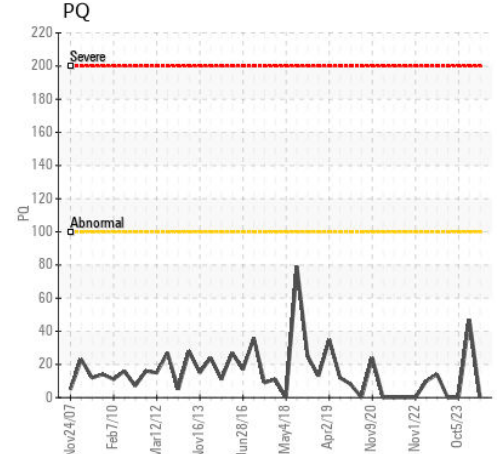
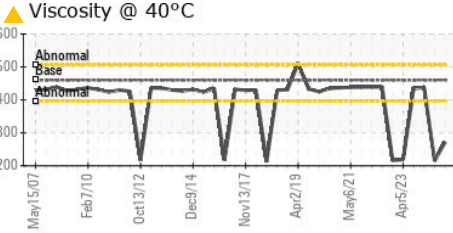
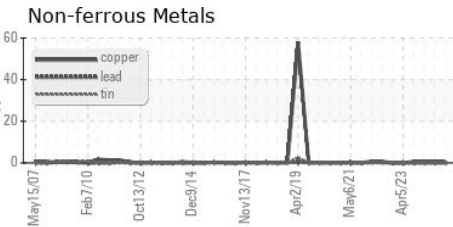
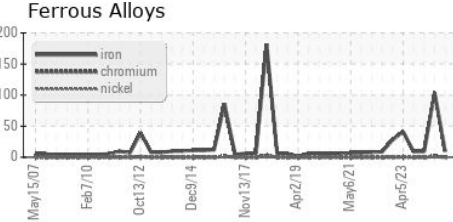
Color



Bottom



GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0900438 **Received** : 19 Apr 2024
Lab Number : 02630366 **Tested** : 22 Apr 2024
Unique Number : 5763498 **Diagnosed** : 22 Apr 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: TAN Man)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.